



Fingerprint Quality Standards Specialist Group (FQSSG)

Notes of the meeting held on 11 November 2015
Greater Manchester Police Force Headquarters, Central Park, Newton Heath,
M40 5BP

1.0 Welcome, Introduction and Apologies

1.1 The Chair, Gary Pugh, welcomed all to the meeting. A full list of attendees and apologies is at Annex A.

1.2 Jim Fraser, who had been providing academic input to FQSSG, had left. Gary Pugh had invited Christophe Champod of Lausanne University, who had a worldwide view of fingerprints processes, to join FQSSG as the academic on the group and Christophe accepted the invite. Ian Elkins, representing CPS (Crown Prosecution Service) has changed roles in CPS and is replaced by Mark Bishop who would join shortly. Meanwhile Mark was copied into the circulations of FQSSG meeting papers.

2.0 Fingerprints Primer for courts

2.1 The work on the Fingerprints Primer for courts had stopped, mainly awaiting input from Professors Sue Black and Niamh NicDaeid of the Royal Society of Edinburgh. Also the FSR (Forensic Science Regulator) had ruled that the current draft was not a primer but only an information document. Currently it listed the four UK outcomes for a fingerprint comparison, but a primer was also required to show other methods of fingerprint analysis including numerical standards and the probabilistic approach. This need arose in view of the expert witness duty to the court to make them aware of alternative techniques to those used in the case. FQSSG needed to fully understand both the nature of a primer and the future plans for the fingerprints document.

Action 1: June Guiness to circulate the latest version of the fingerprint document for court to FQSSG.

Action 2: June Guiness to obtain a definition for a “primer” document.

Action 3: Gary Pugh to obtain clarification on the plans for the fingerprints document for court from the FSR.

3.0 Minutes of last FQSSG meeting on 10 JUN 2015

3.1 The minutes of the last FQSSG meeting on 10th June 2015 had been circulated to members with the meeting papers and needed review from members.

Action 4: FQSSG members to check the accuracy of the previous meeting on 10th June 2015, and send edits to the secretary, to be proofread and the final version to be published on the website.

4.0 Actions and Matters arising

4.1 The remaining actions from the previous meeting of 10th June 2015 had been completed or were agenda items for the present meeting.

5.0 FQSSG Terms of Reference Review

5.1 The existing Terms of Reference for the FQSSG were reviewed and the group discussed the current membership and possible additions. The group were satisfied that the current membership was appropriate, however the group was very keen to collaborate and involve other key stakeholder organisations with the work of the group, and to invite and consult these organisations as appropriate. These included:

- Home Office CAST (Centre for Applied Science and Technology),
- CoP (College of Policing),
- The Fingerprint Society
- The Chartered Society of Forensic Sciences.

It was agreed that fingerprints colleagues at the Police Service of Northern Ireland would be copied into papers and consulted as appropriate.

Action 5: June Guiness to amend the FQSSG membership in the Terms of Reference, circulate to FQSSG, and Secretariat to publish them on the website.

6.0 AFIS / Algorithms / Validation

6.1 FQSSG had previously seen a presentation of a limited evaluation of a new AFIS (Automated Fingerprint Identification System) from Lisa Hall, who would now devise a broader evaluation. The new evaluation would be presented to the Fingerprints Governance Board as quality standards needed to be addressed in the purchase of new Home Office AFIS systems. The FSR was going to write to Stephen Webb, Home Office SRO (Senior Responsible Owner) for the Biometrics Programme on evaluation of AFIS for the police. There was also an issue whether the “live scan” system already used to record fingerprints in custody suites was evaluated.

Action 6: June Guiness to confirm whether the FSR had written to Stephen Webb, Home Office Biometrics Programme about evaluation of proposed police AFIS systems.

6.2 As the FSR currently had funding available, FQSSG could commission a contractor to develop and draft the quality standards for AFIS algorithms, to state how the FSR codes of practice would apply to it, in conjunction with the ISO (International Standards Organisation) 17025 laboratories standard. June Guiness would oversee the requirements for a specification for this AFIS quality standards work, and subsequently procure a consultant to carry out the work through the Home Office open tender process. Neil Denison and Karen Georgiou would assist by providing specifications. The open tender procurement process would require three months, and hence the contract to draft AFIS quality standards could be awarded in January or February 2016 at the earliest.

6.3 The ownership of the resulting AFIS quality standards document would rest with FQSSG, but it can be used by the Home Office Biometrics Strategy Group during their AFIS procurement for police forces.

Action 7: Neil Denison and Karen Georgiou to draft an AFIS quality standards advice requirement, and to include an outline of the skills and knowledge needed by the contractor.

Action 8: June Guiness to provide the Home Office open tender procurement template for Neil Denison and Karen Georgiou.

Action 9: The resulting brief on the proposed contract on quality standards for AFIS systems to be circulated to FQSSG.

Action 10: Gary Pugh to advise the Home Office Biometrics Strategy Group of the proposal from the FQSSG to specify AFIS standards, at their meeting on 12th November 2015.

7.0 Fingerprint Image Capture

7.1 The Friction Ridge Detail Image Capture and Processing sub group of FQSSG had held a technical meeting, addressing issues on images such as the number of pixels per inch, lighting standards and focussing. The fingerprints image standards document would be broadly drawn, concentrating on overall image quality, in order not to stifle innovation by commercial companies.

7.2 Gary Pugh and colleagues had drafted a document, and circulated it to FQSSG at the meeting, showing how a calibrated scale with an ultra high resolution chart could be placed adjacent to a fingerprint image, to assess image quality. In this way, the effect on fingerprint images of the number of pixels per inch, lighting, perspective, focus and other aspects could be tested, although there were some problems such as three-dimensional substrates. The scales cost approximately £100 each and could be reused with

successive fingerprint images, either routinely on all finger-marks, or on a sample. In an AFIS system, the image of the calibrated scale could be added digitally alongside the fingerprint images. These scales now needed to be tested on a range of fingerprints, which Karen Georgiou volunteered to take forward.

Action 11: Karen Georgiou and Neil Dennison to test the calibrated metric scales on live fingerprint processing work.

7.3 June Guiness had drafted a list of proposed amendments to the fingerprints appendix for imaging content, and sought feedback from FQSSG members on whether the appropriate sections for extending were identified correctly and where these sections should sit. The FQSSG agreed to combine with the enhancement appendix. This imaging guidance would help fingerprint examiners understand possible sources of errors when processing fingerprints.

Action 12: Katherine Monnery of UKAS to provide feedback on the enhancement appendix.

Action 13: June Guiness to extend the text of the fingerprints appendix on imaging, and Nick Marsh of Metropolitan Police to advise her on the phrasing to use.

8.0 Fingerprint Enhancement and Development

8.1 Lisa Hall had produced a document on finger mark chemical and physical development and enhancement laboratories standards with Helen Earwaker of University College, London, and Helen Bandy of CAST (Centre for Applied Science and Technology). Fingerprint laboratory managers and Emily Burton of the National Laboratories group have had sight of the draft for comment. The document had been circulated for its first consultation to the National Fingerprint Laboratory network group, using the Home Office consultation web system. This group found the document useful to avoid variations in processing and to challenge the practicality of requirements proposed by UKAS (United Kingdom Accreditation Service). However the network group's feedback could potentially triple the document's size. Also they did not appreciate the competencies of finger mark examiners in marking up fingerprints. The network group were now acting as a technical review group, while their feedback was being reviewed. Katrina Measures, from NCA (National Crime Agency), had been invited to also work on the document.

Action 14: FQSSG members were invited to review the fingerprint development and enhancement laboratories document and provide feedback to Lisa Hall

8.2 The CAST fingerprint manual had become a knowledge base to enable achievement of fingerprint processing accreditation. However it did not cover many substrates, for example finger marks on money (processed using

Ninhydrin or DFO). There was a tendency to claim validation and UKAS approval on the basis of the CAST manual instead of following the necessary procedures for these.

8.3 The consultation had highlighted problems with the methods that some police forces used to attain the new fingerprints standards. Some forces had employed an additional fingerprint bureau member to re-check all their fingerprint results, which was a misunderstanding of the accreditation requirements. Forces needed instead to carry out overall reviews of their fingerprint processes. The ISO 17025 standard for laboratories specified the minimum quality processes required and some police forces were seeking comprehensive instructions instead of taking responsibility to draft these locally. These points needed to be sent from the ACC Mark Hopkins (NPCC forensics lead) fingerprint comparison group to the Forensic Services Managers.

Action 15: Karen Georgiou to appraise ACC Mark Hopkins and to communicate as appropriate.

8.4 The NCA had obtained UKAS approval for a range of Standard Operating Procedures. On request from police forces they were sharing these, but there were concerns that forces were copying these documents excessively instead of relying on their knowledge of processing fingerprints. Also, the scope of accreditation included the initial marking-up of fingerprints, with the correct amount of detail from a fingerprint recorded to perform a comparison. UKAS had an absolute expectation that the marking-up process would be dip-sampled to ensure its quality.

8.5 All fingerprint laboratories had a filtering policy, to determine which finger-marks were rated as good enough quality to be compared against the fingerprint database. But at least one fingerprint bureau was allowing the police officer on the case to decide whether a finger-mark should be put forward. So this point would be included in the fingerprint document.

8.6 The finger mark development document was to be made compatible with the fingerprint comparison appendix, to provide consistent standards for the various areas in fingerprint processing. Some fingerprint laboratories currently had no contact with the finger mark examiners, not even considering them as customers. Work at crime scenes, and powdering, were agreed to be out of scope for the document.

Action 16: Lisa Hall to collate all the feedback and revise the finger mark development and enhancement document.

8.7 Katherine Monnery of UKAS would invite Lisa Hall to their fingerprints chemical assessors' technical assessor meeting in January 2016.

Action 17: Katherine Monnery to invite Lisa Hall to the UKAS fingerprints chemical development technical assessors meeting in January 2016.

9.0 College of Policing Fingerprint Learning Program

9.1 The CoP (College of Policing) was reviewing its Fingerprint Learning Programme. It had held a meeting with police fingerprints bureaux and other stakeholders to establish their training requirements. It was accepted that the present CoP fingerprints training was no longer fit for purpose and did not meet the changing needs of forces. Some police forces sought training for their fingerprint examiners centrally, from CoP, while other forces chose to arrange the training locally. Under the local arrangement, training might be carried out either in a large force or consortium of smaller forces. Thus total demand for fingerprint examiner training had fallen, and it was no longer a cost-effective area for CoP to provide. CoP sought to licence fingerprints examiners, thus giving them a force bias, but they needed to be independent. Jo Taylor of CoP would be invited to FQSSG to discuss these issues.

Action 18: Jo Taylor of College of Policing to be invited to the next FQSSG meeting to discuss training needs for police fingerprint examiners.

10.0 Fingerprints Accreditation Update

10.1 7th December 2015 was the target date for completion of the necessary actions in the final step of the Police Scotland fingerprints accreditation, for Gary Holcroft.

10.2 A general overview was given of preparedness for fingerprints accreditation. UKAS had held two fingerprint accreditation workshops for force practitioners, on 12th June at West Yorkshire Police, Wakefield with 20 people, and 22nd June at Metropolitan Police at Scotland Yard with 30 people. These resulted in good feedback. No more workshops were planned or needed currently. On 28th July the UKAS fingerprint comparison technical assessors had met, covering in particular pre-assessment, and a further such event would be held. That group was proving cohesive, and would need additional members in due course. FQSSG members were to review the technical assessor reserve list, consider possible new assessor, and discuss further at their February 2016 meeting.

Action 19: FQSSG members to consider possible additional UKAS fingerprint comparison technical assessors.

10.3 More generally, UKAS was being significantly restructured, with forensics transferring into a new department with environment and clinical sciences. They were also relocating from Feltham to Staines-upon-Thames on 4th January 2016, and currently seeking additional forensic assessment managers.

10.4 The CEN (Central European Network)/TC 419 committee had met at the Metropolitan Police in London two weeks earlier, and decided to cease their forensic processes standards work, and transfer it to the corresponding ISO international forensics group. There would also be ILAC (International

Laboratory Accreditation Cooperation) G19 forensic standards training events held on February 9th 2016 and February 10th 2016.

10.5 In encouraging police forces to attain ISO 17025 accreditation, there would no longer be liaison with Jonathan Vaughan's team in CAST, working on chemical laboratories, as funding for that team was ceasing in November. Karen Georgiou would instead receive feedback from the Quality Managers Forum via Karen Smith, and had a link to the ACC Mark Hopkins fingerprint comparison group.

11.0 CAST Fingerprint Examiner Proficiency Testing Event

11.1 Jonathan Vaughan at CAST had conducted a pilot event, labelled as Proficiency Testing for police force fingerprint examiners, and had now provided FQSSG with the CAST report of the results from the event. This pilot also related to individual practitioner competence and organisational process issues. The police forces had concerns with the event's management. Some forces had declined to participate, but others gave it a trial because it was new, and had collated detailed feedback points for CAST. CAST had invigilators at the event, monitoring the fingerprint examiners too closely, and the examiners were not told what topics were being tested. CAST were perhaps aiming to catch out the fingerprints examiners, in the style of earlier Home Office proficiency tests, which consequently became a competition between fingerprint laboratories, not reflecting normal fingerprint processing practices. Jonathan Vaughan had expressed a wish to benchmark the police force fingerprint bureaux, and construct a league table. It had taken twelve months for CAST to provide the event results to forces, which was too slow for useful feedback.

11.2 In the tests CAST had used the older toolbox terminology, instead of the outcomes in the new FQSSG and FSR (Forensic Science Regulator) fingerprint standards. More engagement between CAST and FQSSG was desirable, although FQSSG had attempted this, and they were linked through the ACC Mark Hopkins Fingerprint Governance Group.

11.3 In conclusion the ACC Mark Hopkins group needed to promote fingerprint work proficiency testing. FQSSG members were asked to pass their feedback on the CAST proficiency testing event to Gary Pugh and June Guinness to collate. Jonathan Vaughan was seeking a discussion of the feedback.

Action 20: FQSSG members to pass on feedback on the CAST proficiency tests process to Gary Pugh and June Guinness, who would collate it.

11.4 As the FSR and UKAS attended the relevant groups they would pass on from FQSSG an honest view of the CAST proficiency testing. Further discussions were needed to achieve clarity on proficiency testing to support fingerprints accreditation and the adoption of the FSR standards, in conjunction with the FSR, and the ACC Mark Hopkins quality group.

12.0 AOB

12.1 No AOB items were raised by FQSSG members.

13.0 Date of next FQSSG meeting

13.1 Future dates had been set for a February 2016 FQSSG meeting at the FSR offices and four subsequent meetings. The group intended to complete its work by December 2016, but one further provisional meeting has been arranged in early 2017 in case it was required.

Annex A

Present:

Gary Pugh, Chair	Director of Forensic Services, Metropolitan Police Service
Iain Borthwick	Greater Manchester Police, Forensic Services Branch
Neil Denison	West Yorkshire Police
Karen Georgiou	Bedfordshire Police
June Guiness, Scientific Lead	Forensic Science Regulation Unit
Lisa Hall	Metropolitan Police Service
Gary Holcroft	Scottish Police Authority
Katherine Monnery	United Kingdom Accreditation Service
Richard Small	West Midlands Police
Mike Taylor, Secretary	HO Science Secretariat

Apologies

Apologies were received from:

Mark Bishop	Crown Prosecution Service
Christophe Champod	Lausanne University